PSEUDOCOLLINELLA JORLII (CARLES-TOLRÁ) (DIPTERA: SPHAEROCERIDAE) NEW TO BRITAIN, AND NEW RECORDS OF SPHAEROCERIDAE FROM KENFIG NATIONAL NATURE RESERVE, GLAMORGAN

P. GATT

51/1 College Street, Rabat, RBT 06, Malta.

Abstract. Eleven species of lesser dung flies (Diptera: Sphaeroceridae) are newly recorded from Kenfig National Nature Reserve, Glamorgan. Of these, *Pseudocollinella jorlii* (Carles-Tolrá) is new to Britain, *Phthitia plumosula* (Rondani) is uncommon, and *Telomerina pseudoleucoptera* (Duda) is rare. This increases the total number of species of Sphaeroceridae known from Kenfig from 26 to 37. Further collecting and trapping at this faunistically rich site may reveal more species.

INTRODUCTION

The dipterous fauna of Kenfig National Nature Reserve, Glamorgan, has been extensively studied and a detailed report given by Deeming (1995). It is therefore of interest to add a further 11 species of Sphaeroceridae (all in the subfamily Limosininae) to the 26 already known from Kenfig. One of these species, *Pseudocollinella jorlii* (Carles-Tolrá) was previously unknown from Britain.

All specimens were collected by myself during a visit to the site on 10.vii.1995. Representative material has been deposited in the National Museum of Wales, Cardiff.

PSEUDOCOLLINELLA JORLII (CARLES-TOLRÁ)

The genus *Pseudocollinella* Duda, 1924, is a Holarctic genus comprising 19 species, 5 of which occur in the Palaearctic Region. Until recently, it has been treated as part of *Opacifrons* Duda (Marshall & Smith, 1993).

Five species groups have been defined within the genus. *P. jorlii*, and the very closely related *P. humida* (Haliday) constitute the Palaearctic *humida* group.

P. humida is a common, hygrophilous species widely distributed in the Palaearctic Region. It is also widely distributed in Britain, where it has been collected from beside ponds and streams, amongst vegetation or on dried-up river beds and on marshes (Pitkin, 1988). Deeming (1995) has recorded a single specimen from Kenfig and I have collected a series of 3 males and 6 females from the mud around Kenfig Pool.

P. jorlii was first described from Spain (Carles-Tolrá, 1990) as *Opacifrons jorlii* and has subsequently also been recorded from Portugal, Italy, Morocco, Algeria and, more recently, from Malta (Gatt, in litt.). Its distribution, although probably wide, cannot be stated with certainty as it has previously been confused with *humida*. I have collected a single female from the area around Kenfig Pool. The occurrence of *P. jorlii* in Britain was hitherto unknown.

P. jorlii can be distinguished from the very similar *humida* by differences in the male and female post-abdominal structures, figured in outline by Carles-Tolrá (1990). The female 10th sternite (hypoproct, subanal plate), referred to as sternite 9 by Carles-Tolrá but now deemed to be sternite 10, is markedly different in both species, and is here refigured with detail for both. In *jorlii*, the 10th sternite in strict ventral view is horse-shoe shaped with a large, pyriform, anteromedial, desclerotised and depigmented area (Fig. 1a). In specimens which have been overcleared this area

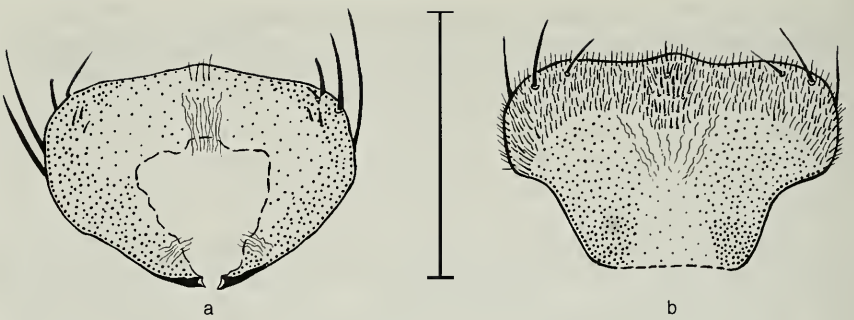

Figure 1. *Pseudocollinella* Duda. Female sternite 10 (hypoproct, subanal plate) in strict ventral view: a, *jorlii*; b, *humida*.

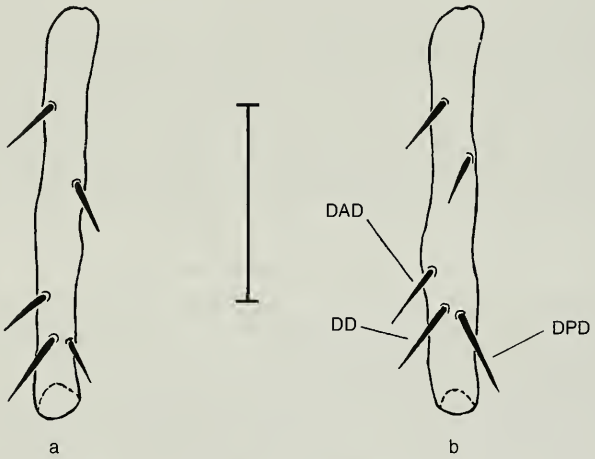

Figure 2. *Pseudocollinella* Duda. Female mid-tibia, dorsal view: a, *jorlii*; b, *humida*. Abbreviations: DAD = distal anterodorsal bristle, DD = distal dorsal bristle, DPD = distal posterodorsal bristle. Scale bars: sternites 0.21 mm, tibiae 0.3 mm.

may be so pale as to be completely transparent, and it will then take the semblance of a pyriform excision. Two highly sclerotised spine-like thickenings of the anteromedial margin of the sternite flank its apex. In *humida*, the 10th sternite is roughly quadrangular in shape with a highly setulose posterior third, a finely rugose central part and a paler triangular anteromedial zone (Fig. 1b). Spine-like thickenings are completely absent.

The 3 dorsal bristles that occur on the distal part of the middle tibia of both species also provide useful distinguishing characters. For the sake of clarity, I have adopted the terminology used by Marshall & Smith (1993) to describe the position of these 3 important bristles: distal anterodorsal (DAD), distal dorsal (DD), and distal posterodorsal (DPD). In *jorlii*, the DPD is weak and short, about half the length of

the DD and more or less the same length as the DAD (Fig. 2a). By contrast, the DPD in *humida* is strong and long, about the same length as the DD and longer than the DAD (Fig. 2b). These differences are apparent in the figures given by Carles-Tolrá (1990). His descriptions of the mid-tibial chaetotaxy, however, are not completely clear, and may have led to a small error in couplet 4 of Marshall & Smith's (1993) key to the known species of *Pseudocollinella*. The key can be rectified as follows:

4. Distal posterodorsal bristle of midtibia shorter than distal *dorsal* (not distal anterodorsal) bristle. Paramere U-shaped . . . . . *jorlii* (Carles-Tolrá). Europe.

   Distal posterodorsal bristle of midtibia as long as distal *dorsal* (not anterodorsal) bristle. Paramere straight . . . . . *humida* (Haliday). Palaearctic.

The biology of this species is not known. The type series was, however, collected from marshes, pools, river banks, a dead tadpole and a cave. These and other data suggest that it is a hygrophilous species with larvae developing in mud as do those of *P. humida*.

P. jorlii, misidentified as *humida* may well be represented in several European collections (Munari, 1992). Likewise, search amongst specimens identified as *humida* in British collections may unearth further specimens of *jorlii*.

Other new records

These are given with the species listed in alphabetical order. Notes on the biology and geographical distribution of each species are given.

Chaetopodella scutellaris (Haliday)

Predominantly a pasture symbovilous species, *C. scutellaris* has also been recorded from human faeces as well as from carrion. It is widespread in Europe, and there are records from Africa and Afghanistan. Five males and 5 females were collected from fresh cow dung at Kenfig.

Coproica acutangula (Zetterstedt)

A coprophagous species recorded from the dung of cow, horse, sheep, pig, dog and man. Cosmopolitan. Forty-seven males and 38 females were collected from cow dung mixed with mud at the edge of Kenfig Pool.

Coproica ferruginata (Stenhammar)

A symbovilous, coprophagous species, secondarily synanthropic in farming communities. Cosmopolitan. One female was collected from fresh cow dung.

Coproica lugubris (Haliday)

A coprophagous species widely distributed in Europe and east to Afghanistan and Korea, and also recorded from North Africa (Tunisia). Eleven males and 6 females were collected from fresh cow dung.

Coprocica pusio (Zetterstedt)

A coprophagous species found on the dung of horse and pig, but also recorded from rotting vegetation (Pitkin, 1988). Widely distributed in Europe and east to Afghanistan and Mongolia. Two females were collected from fresh cow dung.

Leptocera (Leptocera) caenosa (Rondani)

A eusynanthropic, polysaprophagous species which is only rarely collected out of doors, and then usually in caves or on carrion (Roháček, pers. comm.). It is often collected on windows and readily breeds in human sewage. Cosmopolitan. One female was collected at Kenfig.

Leptocera (Leptocera) nigra Olivier

The larvae of *L. nigra* develop in mud or wet soil and adults are to be found in damp, grassy biotopes and alongside streams and ponds. Adults may also be found on dung. Possibly confined to temperate areas of the entire Palaearctic Region, where it is extremely common in the south, especially the Mediterranean (Roháček, 1982). Also confirmed from the Afrotropical Region (Roháček, pers. comm.). Three females were taken from the area around Kenfig Pool.

Leptocera (Rachispoda) limosa (Fallén)

Usually found on damp ground at the edge of ponds, streams and marshes, but has also been collected from dung. A Holarctic species, widely distributed in Europe and east to Afghanistan, also recorded from North Africa. Twenty-seven males and 30 females were collected from wet mud at Kenfig Pool.

Phthitia (Kimosina) pluinosula (Rondani)

Generally uncommon, this species usually occurs in damp shady biotopes such as woodland meadows and streams, and under decaying vegetation. It has also been taken from caves, and from windows. Widely distributed in Europe, *P. pluinosula* probably has its origin in eastern North America from where it has subsequently been introduced to Europe and Chile (Marshall & Smith, 1992). This species is not usually taken from dung. Some of the 8 males and 6 females taken at Kenfig, were, however, collected from fresh cow dung.

Telomerina pseudoleucoptera (Duda)

An uncommon species which is associated with the dung of large herbivores. Known only from Europe, where it is widespread, it is rarely collected (Marshall & Roháček, 1984). One female was taken from fresh cow dung at Kenfig.

Acknowledgements

I wish to thank Dr John C. Deeming (Cardiff, UK) and Dr Martin Ebejer (Balzan, Malta) for reading drafts of the manuscript and suggesting improvements. Dr Deeming is also thanked for organising the trip to Kenfig, and for his assistance and

hospitality during my stay in Wales. Dr Jindrich Roháček (Opava, Czech Republic) is thanked for sharing useful, unpublished information.

References

Carles-Tolrá, M. 1990. New species and records of Sphaeroceridae (Dipt.) from Spain. *Entomologist's Monthly Magazine* **126**: 33–46.

Deeming, J. C. 1995. Diptera (True Flies) from the Kenfig National Nature Reserve, Glamorgan. *National Museum of Wales: Entomology Series* **4**: 1–113.

Marshall, S. A. & Roháček, J. 1984. A revision of the genus *Telomerina* Roháček (Diptera, Sphaeroceridae). *Systematic Entomology* **9**: 127–163.

Marshall, S. A. & Smith, I. P. 1992. A revision of the New World and Pacific *Phthitia* Enderlein (Diptera; Sphaeroceridae; Limosininae), including *Kimosina* Roháček, new synonym and *Aubertinia* Richards, new synonym. *Memoirs of the Entomological Society of Canada* **161**: 1–83.

Marshall, S. A. & Smith, I. P. 1993. A revision of the Nearctic *Pseudocollinella* Duda (Diptera; Sphaeroceridae). *Canadian Journal of Zoology* **71**: 835–857.

Munari, L. 1992. New records of lesser dung flies from Italy and distributional notes on *Opacifrons jorlii* Carles-Tolrá, 1990 (Diptera: Sphaeroceridae). *Bollettino del Museo civico di Storia naturale di Venezia* **41** (1990): 225–229.

Pitkin, B. R. 1988. Lesser Dung Flies. Diptera: Sphaeroceridae. *Handbooks for the Identification of British Insects* **10**(5e): 1–175.

Roháček, J. 1982. Revision of the Subgenus *Leptocera* (s. str.) of Europe (Diptera, Sphaeroceridae). *Entomologische Abhandlungen. Staatlichen Museum für Tierkunde in Dresden* **46**: 1–4.

SHORT COMMUNICATION

Behavioural observations of *Philanthus triangulum* (Fab.) (Hymenoptera).—*Philanthus triangulum* (Fab.), the European bee wolf, is a species of solitary wasp found throughout Western Europe. Over the past 7–8 years it has been undergoing a population resurgence after a period of reduced numbers. A newly established colony of *P. triangulum* was discovered in the grounds of St Peter's Hospital, Chertsey, Surrey. This colony had probably only been present for one to three years before the date of discovery (June 1996). The colony was observed to establish on the same site over the next two years and in 1998 a new colony was observed in a separate location approximately 150 metres from the first. Due to its small size (10–20 individuals) this probably established in 1998, possibly as an offshoot of the first colony.

The first colony was the focus of a short period of field study during the summer of 1998. During the period of study, on several occasions (4–5) two wasps were observed using one nest entrance. Each wasp would open the entrance itself (i.e. clear the plug of soil put in place to prevent parasitism), and close the entrance after it. The wasps would remain in the nest burrow together and then leave separately. There was no evidence of aggression, as was sometimes seen when one female entered another's nest in order to plunder paralysed worker bees from the nest.

There are several possible explanations for this behaviour. The females could have been sharing nest entrances, but have had separate nest burrows underground. This is the most likely explanation, as many other species of solitary wasp show this behaviour. The nest sharing could have been accidental, due to misidentification of nest sites. This was observed occurring at several different burrows so this is less likely. Alternatively the females could have been exhibiting some degree of social behaviour. No papers so far found have described any of these behaviours for *P. triangulum*. Whichever is true this novel behaviour is worthy of extra study.—Jason Moore, Selwyn College, Cambridge CB3 9DQ.